

# Autonics TIMER LE4S INSTRUCTION MANUAL



Thank you for choosing our Autonics product.  
Please read the following safety considerations before use.

## ■ Safety Considerations

- ▲ Please observe all safety considerations for safe and proper product operation to avoid hazards.
- ※ Symbol represents caution due to special circumstances in which hazards may occur.
- ▲ **Warning** Failure to follow these instructions may result in serious injury or death.
- ▲ **Caution** Failure to follow these instructions may result in personal injury or product damage.

- ▲ **Warning**
- 1. **Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.** (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.) Failure to follow this instruction may result in fire, personal injury, or economic loss.
- 2. **Install on a device panel to use.** Failure to follow this instruction may result in electric shock or fire.
- 3. **Do not connect, repair, or inspect the unit while connected to a power source.** Failure to follow this instruction may result in electric shock or fire.
- 4. **Check 'Connections' before wiring.** Failure to follow this instruction may result in fire.
- 5. **Do not disassemble or modify the unit.** Failure to follow this instruction may result in electric shock or fire.

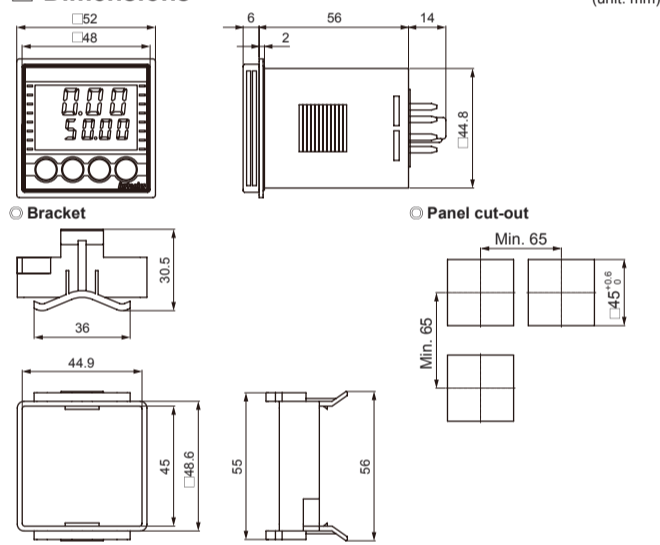
- ▲ **Caution**
- 1. **When connecting the power/sensor input and relay output, use AWG 20(0.50mm<sup>2</sup>) cable or over and tighten the terminal screw with a tightening torque of 0.74 to 0.90N·m.** Failure to follow this instruction may result in fire or malfunction due to contact failure.
- 2. **Use the unit within the rated specifications.** Failure to follow this instruction may result in fire or product damage.
- 3. **Use dry cloth to clean the unit, and do not use water or organic solvent.** Failure to follow this instruction may result in electric shock or fire.
- 4. **Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.** Failure to follow this instruction may result in fire or explosion.
- 5. **Keep metal chip, dust, and wire residue from flowing into the unit.** Failure to follow this instruction may result in fire or product damage.

## ■ Ordering Information

LE 4 S	Output	No mark	Time-limit 1c
	Size	A	Time-limit 2c, Time-limit 1c+Instantaneous 1c (selectable)
	Digit	S	DIN W48×H48mm
	Item	4	9999 (4-digit)
		LE	LCD Timer (touch type)

※8-pin socket (PG-08, PS-08(N)) is sold separately.

## ■ Dimensions

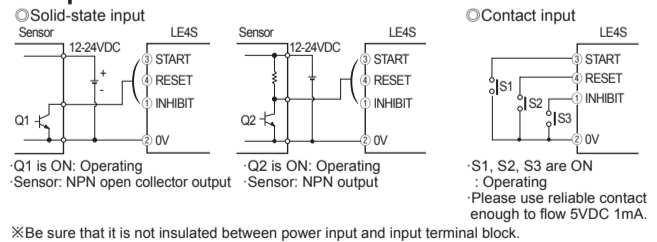


## ■ Specifications

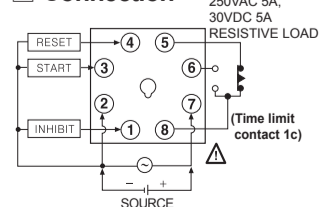
Model	LE4S	
Display method	LCD display (backlight)	
Power supply	24-240VAC ~ 50/60Hz, 24-240VDC= universal	
Allowable voltage range	90 to 110% of rated voltage	
Power consumption	Max. 4.5VA (24-240VAC ~ 50/60Hz), max. 2W (24-240VDC=)	
Return time	Max. 100ms	
Min. input signal width	Approx. 1ms, 20ms (selectable)	
Input	<No-voltage input> Impedance at short-circuit: max. 1kΩ, Residual voltage: max. 0.5VDC=, Impedance at open-circuit: min. 100kΩ	
Timing operation	Signal ON Start	
Control	Contact type: Time limit SPDT (1c)	
output	Contact capacity: 250VAC ~ 5A, 30VDC= 5A resistive load	
Relay	Mechanical: Min. 10,000,000 operations	
life cycle	Electrical: Min. 100,000 operations (at rated contact capacity)	
Repeat Set Voltage-Temperature error	Max. ±0.01% ±0.05sec (for Power ON Start) Max. ±0.005% ±0.03sec (for Signal ON Start)	
Insulation resistance	Over 100MΩ (at 500VDC megger)	
Dielectric strength	2,000VAC 50/60Hz for 1 minute	
Noise immunity	±2kV the square wave noise (pulse width: 1us) by the noise simulator	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 1 hour
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Shock	Mechanical	300m/s <sup>2</sup> (approx. 30G) in each X, Y, Z direction for 3 times
	Malfunction	100m/s <sup>2</sup> (approx. 10G) in each X, Y, Z direction for 3 times
Environment	Ambient temp.	-10 to 55°C, storage: -25 to 65°C
Approval	Ambient humi.	35 to 85%RH
Unit weight		Approx. 98g

※Environment resistance is rated at no freezing or condensation.

## ■ Input Connections



## ■ Connection

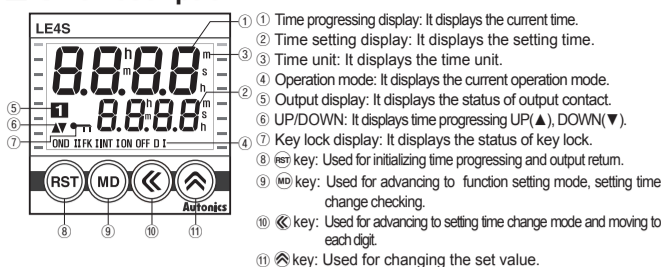


## ■ Factory Default

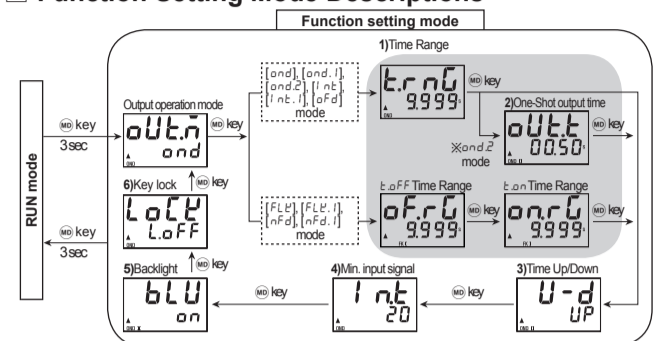
NO.	Parameter	Default
1	Output operation mode	o n d . n
2	Time Range	t r n d
3	Time Up/Down	u - d
4	Min. input signal	i n t
5	Backlight	b l u
6	Key Lock	L o c k
7	Setting time	- 50.00s

※The above specifications are subject to change and some models may be discontinued without notice.  
※Be sure to follow cautions written in the instruction manual and the technical descriptions (catalog, homepage).

## ■ Unit Description



## ■ Function Setting Mode Descriptions



### 1) Time Range

Parameter	Time range specification
9.999s(9.999s)	0.010 sec to 9.999 sec
99.99s(99.99s)	0.01 sec to 99.99 sec
999.9s(999.9s)	0.1 sec to 999.9 sec
9999s(9999s)	1 sec to 9999 sec
99.59s(99m59s)	0 min 01 sec to 99 min 59 sec
999.9m(999.9m)	0.1 min to 999.9 min
9999m(9999m)	1 min to 9999 min
99.59h(99h59m)	0 hour 01 min to 99 hour 59 min
99.99h(99.99h)	0.01 hour to 99.99 hour
999.9h(999.9h)	0.1 hour to 999.9 hour
9999h(9999h)	1 hour to 9999 hour

### 2) One-Shot output time setting

It will be activated when selecting ON Delay 2[ond.2] output operation mode (One-Shot-output mode). (Time setting: 0.01 sec to 99.99 sec)

### 3) Time progress UP/DOWN setting

UP[UP]: Time progressed from 0 to setting time.  
DOWN[DN]: Time progressed from setting time to 0.

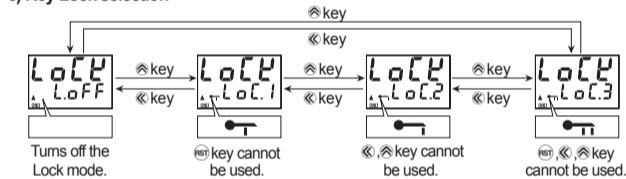
### 4) The minimum input signal setting

Set the minimum input signal of RESET, START and INHIBIT. Min. input signal: Choose 1ms and 20ms

### 5) Backlight setting

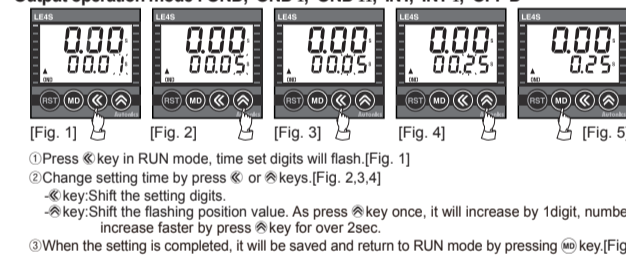
Set Backlight (ON[on], OFF[off]).

### 6) Key Lock selection

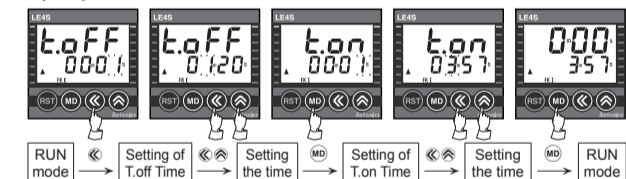


## ■ Time Setting

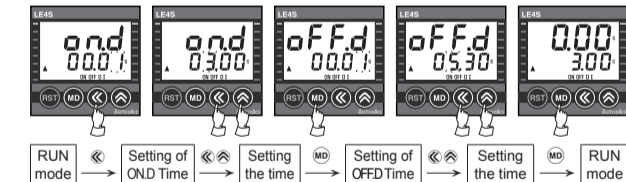
### • Output operation mode : OND, OND I, OND II, INT, INT I, OFF D



### • Output operation mode : FK, FK I



### • Output operation mode : ON OFF D, ON OFF D I

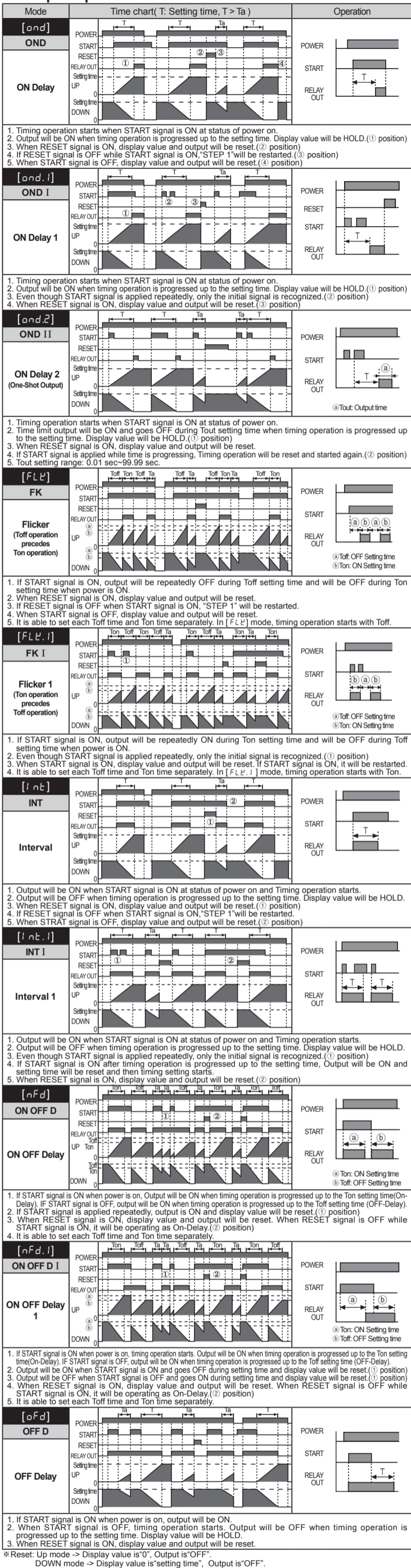


※It is able to change the setting time during the time progressing, but be sure about the time progressing while changing of the time.  
※If pressing key while setting time is shorter than min. setting time, setting value will be flickering three times and it will be returned to setting mode again, not to RUN mode.  
※If there is no additional key operations after entering into setting mode, it will be return to RUN mode. (Setting value is not saved.)  
※Min. setting time: 0.01 sec.  
(In case of OND, OND I and OND II modes, it is able to set 0 since no min. setting time is applied.)

## ■ Cautions during Use

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
  - When supplying or turning off the power, use a switch or etc. to avoid chattering.
  - Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
  - In order to block peripheral current, use isolation transformer which of secondary part is not grounded as (Figure 1) to supply power to the external input device.
- (Figure 1)
- 
- Do not connect two or more timers with only one input contact or transistor simultaneously.
  - Keep away from high voltage lines or power lines to prevent inductive noise.
- In case installing power line and input signal line closely, use line filter or varistor at power line and shielded wire at input signal line.
- Do not use near the equipment which generates strong magnetic force or high frequency noise.
- This unit may be used in the following environments.
- ①Indoors (in the environment condition rated in 'Specifications')
  - ②Altitude max. 2,000m
  - ③Pollution degree 2
  - ④Installation category II

## ■ Output Operation Mode



## ■ Major Products

- Photoelectric Sensors
- Fiber Optic Sensors
- Door Sensors
- Area Sensors
- Proximity Sensors
- Pressure Sensors
- Rotary Encoders
- Field Network Devices
- Laser Marking System
- Temperature Controllers
- Temperature/Humidity Transducers
- SSR/Power Controllers
- Counters
- Timers
- Panel Meters
- Tachometer/Pulse (Rate) Meters
- Display Units
- Sensor Controllers
- Switching Mode Power Supplies
- Control Switches/Lamps/Buzzers
- Terminal Blocks & Cables
- Stepper Motors/Drivers/Motion Controllers
- Graphic/Logic Panels
- Relay Interlocks
- Laser Welding/Cutting System

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